

REMARKS/ARGUMENTS

Claims 52-56 are newly added. Claims 18-56 are now pending in the application. Reexamination and reconsideration of the application are requested.

Initially, Applicants thank the Examiner for the courtesy extended to Applicants during a visit to the Patent and Trademark Office in November. As discussed below, Applicants have amended independent claims 18 and 26 as suggested by the Examiner during that visit.

Claims 18, 19, 25-29, 37, 38, 40, 42, 44, and 46-51 were rejected under 35 USC § 102(b) as anticipated by US Patent No. 5,819,410 to Furusawa et al. ("Furusawa"). Applicants respectfully traverse this rejection.

As suggested by the Examiner during the visit in November, Applicants have amended independent claim 18 to include "conductive elements providing electrical paths from said recesses to a second surface of said substrate." Non-limiting examples of the conductive elements now recited in claim 18 are shown in Figures 5A-5C and are also supported in other places in the specification. As discussed at the interview, even if the prior art of record is read as disclosing recesses having the characteristics of the recesses recited in claim 18 (which, as discussed below, Applicants dispute), the prior art nevertheless fails to teach or suggest the conductive elements now recited in claim 18. For this reason alone, claim 18 is patentable over the prior art of record.

As mentioned above, Applicants also assert that the prior art of record does not teach or suggest recesses having the characteristics of the recesses recited in claim 18. More specifically, in the rejection of independent claim 18, the hollow portion 20a, including inserted frames 33 and 43, of positioning holder 20 and the pipes 41 of Furusawa were equated with the recesses of claim 18. The hollow portion 20a, frames 33 and 43, and pipes 41 do not form a plurality of recesses each having the characteristics specified in claim 18. The hollow portion 20a in holder 20, including inserted frames 33 and 43, do include a bottom that prevents pins 32 from passing through, nor do pins 32 (which were equated with the spring contacts of claim 18) make electrical connections with hollow portion 20a, frame 33, or frame 43. Pipes 41 likewise do not include a bottom, and pins 32 do not make electrical connections with pipes 41. Therefore, none of the hollow portion 20a, frames 33 and 43, or pipes 41 have the characteristics required of the recesses of claim 18.

Applicants note that electrodes 12a do not form any type or portion of a recess in holder 20 (which was equated with the substrate of claim 18). Rather, electrodes 12a are part of base

plate 10. Electrodes 12a do not therefore meet any of the requirements of the recesses of claim 18.

For all of the above reasons, Furusawa does not anticipate or render obvious claim 18.

Independent claim 26 has also been amended and now includes "conductive elements providing electrical paths from said terminals to a second surface of said substrate." As discussed above with respect to claim 18, the prior art of record does not teach or suggest such conductive elements. Claim 26 is therefore also patentable over the prior art of record.

In addition, independent claim 26 includes a step of "pressing tips of ones of said spring contact elements against ones of said rigid conductive terminals and thereby compressing said spring contact elements and generating in said spring contact elements spring reaction forces." Furusawa does not teach compressing pins 32. In fact, if anything, Furusawa teaches away from compressing pins 32. (See Furusawa Figures 6A and 6B and col. 1, lines 44-60.) Claim 26 thus distinguishes over Furusawa.

Moreover, the pins 32 of Furusawa are not pressed against any part of the positioning holder 20 (which was equated with the substrate of claim 26). For this additional reason, the rejection of claim 26 as anticipated by Furusawa should be withdrawn.

Claims 19, 25-29, 37, 38, 40, 42, 44, and 46-51 depend from claim 18 or claim 26 and are therefore also patentable over Furusawa.

Claims 20-24, 30-36, 39, 41, 43, and 45 were rejected under 35 USC § 103(a) as obvious in view of Furusawa, US Patent No. 5,038,467 to Murphy ("Murphy"), US Patent No. 4,533,199 to Feldberg ("Feldberg"), and US Patent No. 6,449,838 to Murakami ("Murakami"). Applicants respectfully traverse this rejection.

In rejecting claims 20-24, 30-36, 39, 41, 43, and 45, the Office Action acknowledged that Furusawa fails to disclose cone shaped, concave shaped, V-shaped, U-shaped, and trapezoidal shaped recesses; recesses that taper inwardly from the entrance to the recess; and plating on the recess, including plating that forms the bottom of the recess. It is alleged, however, that it would have been obvious to modify Furusawa in view of Murphy, Feldberg, and Murakami to include such features "for the purpose of better coupling with the substrate and providing fine conductors on and in the recesses."

The positioning holder 20 of Furusawa was equated with the substrate of claims 18 and 26, yet there would appear to be no improvement in the "coupling" of the positioning holder 20

to be gained by modifying the shape of or introducing plating into either the hollow portion 20a or the pipes 41. Because "better coupling with the" positioning holder 20 would not be achieved by modifying the shape of or introducing plating into the hollow portion 20a or the pipes 41, "better coupling with the" positioning portion 20a does not provide motivation for modifying the shapes of or introducing plating into the hollow portion 20a or the pipes 41 of Furusawa.

Moreover, the recesses of claims 18 and 26 were equated with the hollow portion 20a and the pipes 41 of Furusawa. There would appear to be no reason or advantage in "providing fine conductors on and in the" the hollow portion 20a or the pipes 41 of Furusawa. For example, neither hollow portion 20a nor pipes 41 make electrical connections with any other element in Furusawa. What advantage or purpose would there be, therefore, in putting fine conductors in hollow portion 20a or pipes 41? In fact, Furusawa expressly describes the pipes 41 as formed from an electrically insulative material. Thus, if anything, Furusawa teaches against putting fine conductors in pipes 41.

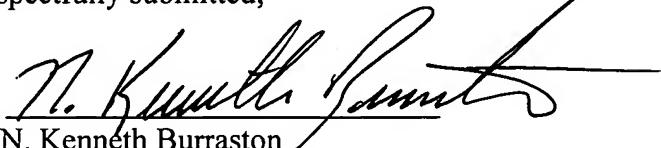
For all of the foregoing reasons, the prior art does not provide motivation for changing the shapes of or introducing plating into the hollow portion 20a or pipes 41 of Furusawa. Therefore, claims 20-24, 30-36, 39, 41, 43, and 45 patentably distinguish over the combination of Furusawa, Murphy, Feldberg, and Murakami.

New claims 52-56 also recite features not taught or suggested by the prior art of record. Claim 53 requires passing each spring contact into a different recess, claim 54 requires that all portions that form a conductive recess be electrically connected. Claim 55 states that each recess comprises side walls that extend from a surface of the substrate to the bottom portion of the recess and the side walls and the bottom portion are electrically connected. None of the prior art of record teaches or suggests such features.

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In view of the foregoing, Applicants submit that all of the claims are allowable and the application is in condition for allowance. If the Examiner believes that a discussion with Applicants' attorney would be helpful, the Examiner is invited to contact the undersigned at (801) 323-5934.

Respectfully submitted,

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